

## CLAIMS

1. A coating composition comprising (A) a synthetic resin having functional group X, (B) a stain-proofing component and (C) a curing agent, in which the stain-proofing component (B) is (B1) a liquid polydialkylsiloxane having functional group  $Y^1$  being capable of reacting with the functional group X and/or the curing agent (C) or (B2) a liquid fluoropolyether having functional group  $Y^2$  being capable of reacting with the functional group X and/or the curing agent (C).

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2. The coating composition of Claim 1, wherein said resin (A) is a fluorine-containing resin having functional group, a non-fluorine-containing acrylic resin having functional group, a polyester resin having functional group, a urethane resin having functional group and/or an epoxy resin having functional group.

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3. The coating composition of Claim 1 or 2, wherein the functional group X of the resin (A) is hydroxyl, carboxyl, epoxy, amino, carbonyl, nitrile and/or hydrolyzable alkyl silicate residue.

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4. The coating composition of any of Claims 1 to 3, wherein the functional group  $Y^1$  of the polydialkylsiloxane (B1) is hydroxyl, amino, epoxy, carboxyl, thiol,  $-(C_2H_4O)_a-(C_3H_6O)_bR^1$ , in which  $R^1$  is an alkyl group having 1 to 8 carbon atoms, a and b are the same or different and each is an integer of from 1 to 40, and/or hydrolyzable alkyl silicate residue.

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5. The coating composition of any of Claims 1 to 3, wherein the functional group  $Y^2$  of the fluoropolyether (B2) is hydroxyl, amino, epoxy, carboxyl, thiol, nitrile, iodine atom and/or hydrolyzable alkyl silicate residue.

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6. The coating composition of any of Claims 3 to 5, wherein the hydrolyzable alkyl silicate residue in the functional group X of the resin (A) or the functional group  $Y^1$  or  $Y^2$  of the stain-proofing component (B) is a silicon-containing functional group represented by  $-\text{SiR}^2_3\text{-}$   
10  $\text{m}(\text{OR}^3)_m$ , in which  $R^2$  is a non-hydrolyzable hydrocarbon group which has 1 to 18 carbon atoms and may have fluorine atom;  $R^3$  is a hydrocarbon group having 1 to 18 carbon atoms; m is an integer of from 1 to 3.

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7. The coating composition of any of Claims 1 to 6, wherein the curing agent (C) is at least one selected from the group consisting of an isocyanate compound, amino compound, epoxy compound, organic acid, hydrazide compound, aziridine compound, carbodiimide compound and/or  $\text{Si}(\text{OR}^4)_4$ , in which  $R^4$  is a non-fluorine-containing  
20 alkyl group having 1 to 10 carbon atoms,  $\text{R}^5\text{Si}(\text{OR}^6)_3$ , in which  $R^5$  and  $R^6$  are the same or different and each is a non-fluorine-containing alkyl group having 1 to 10 carbon atoms, solely condensed oligomers, and co-condensed co-oligomers thereof.

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8. The coating composition of Claim 1, wherein the functional group X of the resin (A) is hydroxyl, the functional group  $Y^1$  or  $Y^2$  of the stain-proofing component (B) is hydroxyl or amino, and the curing agent

(C) is an isocyanate compound.

9. The coating composition of Claim 8, wherein the functional group  $Y^1$  or  $Y^2$  of the stain-proofing component (B) is amino.

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10. The coating composition of Claim 1, wherein the functional group X of the resin (A) is hydroxyl, the functional group  $Y^1$  or  $Y^2$  of the stain-proofing component (B) is amino, and as the curing agent (C), an isocyanate compound is used in combination with  $Si(OR^4)_4$ , in which  $R^4$  is a non-fluorine-containing alkyl group having 1 to 10 carbon atoms, solely condensed oligomer and/or co-condensed co-oligomer.

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11. The coating composition of any of Claims 8 to 10, wherein a hydroxyl value of the resin (A) is from 10 to 300 mgKOH/g.

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12. The coating composition of any of Claims 8 to 11, wherein the resin (A) is a fluorine-containing resin having hydroxyl which has a fluorine content of not less than 10 % by mass.

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13. The coating composition of any of Claims 9 to 12, wherein an amino equivalence of the stain-proofing component (B) is not less than 1,000.

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14. The coating composition of any of Claims 8 to 13, wherein the curing agent (C) is an isocyanate compound having hydrolyzable alkyl silicate residue.

15. The coating composition of Claim 1, wherein the functional group X of the resin (A) is carboxyl, the functional group Y<sup>1</sup> or Y<sup>2</sup> of the stain-proofing component (B) is carboxyl, amino or epoxy, and the curing agent (C) is an amino compound, epoxy compound, aziridine  
5 compound or carbodiimide compound.

16. The coating composition of Claim 1, wherein the functional group X of the resin (A) is amino, the functional group Y<sup>1</sup> or Y<sup>2</sup> of the stain-proofing component (B) is amino or carboxyl, and the curing  
10 agent (C) is an epoxy compound or an organic acid.

17. The coating composition of Claim 1, wherein the functional group X of the resin (A) is carbonyl or carboxyl, the functional group Y<sup>1</sup> or Y<sup>2</sup> of the stain-proofing component (B) is amino or carboxyl,  
15 and the curing agent (C) is an epoxy compound or a hydrazide compound.

18. The coating composition of Claim 1, wherein the functional group X of the resin (A) is epoxy, the functional group Y<sup>1</sup> or Y<sup>2</sup> of the stain-proofing component (B) is amino or epoxy, and the curing  
20 agent (C) is an organic acid or an amino compound.

19. A coating composition which does not contain a curing agent and comprises (A) a synthetic resin having functional group X and  
25 (B) a stain-proofing component, in which the stain-proofing component (B) is (B1) a liquid polydialkylsiloxane having functional group Y<sup>1</sup> being capable of reacting with the functional group X or (B2) a liquid

fluoropolyether having functional group  $Y^2$  being capable of reacting with the functional group X.

20. The coating composition of Claim 19, wherein the resin  
5 (A) is a fluorine-containing resin having functional group, a non-fluorine-containing acrylic resin having functional group, a polyester resin having functional group, a urethane resin having functional group and/or an epoxy resin having functional group.

10 21. The coating composition of Claim 19 or 20, wherein the functional group X of the resin (A) is hydroxyl, carboxyl, epoxy, amino, carbonyl, nitrile and/or hydrolyzable alkyl silicate residue.

22. The coating composition of any of Claims 19 to 21,  
15 wherein the functional group  $Y^1$  of the polydialkylsiloxane (B1) is hydroxyl, amino, epoxy, carboxyl, thiol,  $-(C_2H_4O)_a-(C_3H_6O)_bR^1$ , in which  $R^1$  is an alkyl group having 1 to 8 carbon atoms, a and b are the same or different and each is an integer of from 1 to 40, and/or hydrolyzable alkyl silicate residue.

20 23. The coating composition of any of Claims 19 to 21, wherein the functional group  $Y^2$  of the fluoropolyether (B2) is hydroxyl, amino, epoxy, carboxyl, thiol, nitrile, iodine atom and/or hydrolyzable alkyl silicate residue.

25 24. The coating composition of any of Claims 21 to 23, wherein the hydrolyzable alkyl silicate residue in the functional group X

of the resin (A) or the functional group  $Y^1$  or  $Y^2$  of the stain-proofing component (B) is a silicon-containing functional group represented by -  
 $SiR^2_{3-m}(OR^3)_m$ , in which  $R^2$  is a non-hydrolyzable hydrocarbon group which has 1 to 18 carbon atoms and may have fluorine atom;  $R^3$  is a  
5 hydrocarbon group having 1 to 18 carbon atoms; m is an integer of from 1 to 3.

25. The coating composition of Claim 19, wherein the functional group X of the resin (A) is a hydrolyzable alkyl silicate residue,  
10 and the functional group  $Y^1$  or  $Y^2$  of the stain-proofing component (B) is hydroxyl or a hydrolyzable alkyl silicate residue.

26. The coating composition of Claim 19, wherein the functional group X of the resin (A) is hydroxyl, and the functional group  
15  $Y^1$  or  $Y^2$  of the stain-proofing component (B) is a hydrolyzable alkyl silicate residue.

27. The coating composition of any of Claims 1 to 26, which further contains a curing catalyst (D).

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28. The coating composition of any of Claims 1 to 27, wherein the resin (A) is a fluoroolefin resin having functional group.

29. The coating composition of any of Claims 1 to 28, wherein  
25 the stain-proofing component (B) is blended in an amount of not less than 0.01 part by weight and not more than 50 parts by weight to 100 parts by weight of the resin (A).

30. The coating composition of any of Claims 1 to 29, wherein the coating composition is formed into an organic solvent type coating composition containing an organic solvent.

5           31. The coating composition of any of Claims 1 to 29, wherein the coating composition is dispersed in an aqueous medium to prepare an aqueous dispersion type coating composition.